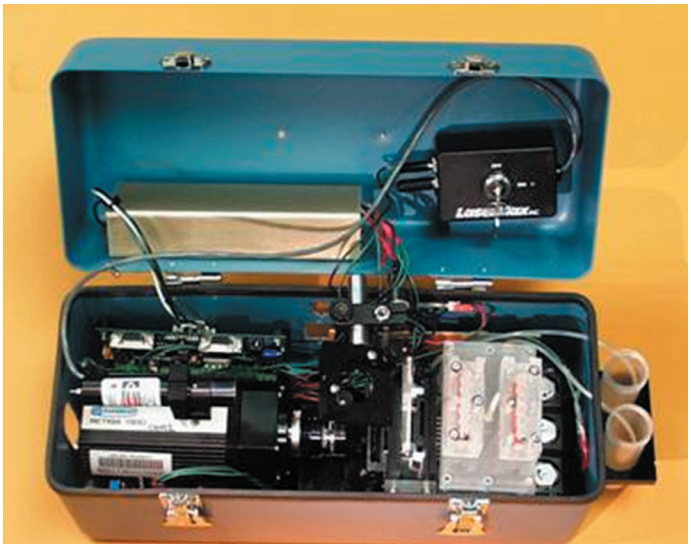
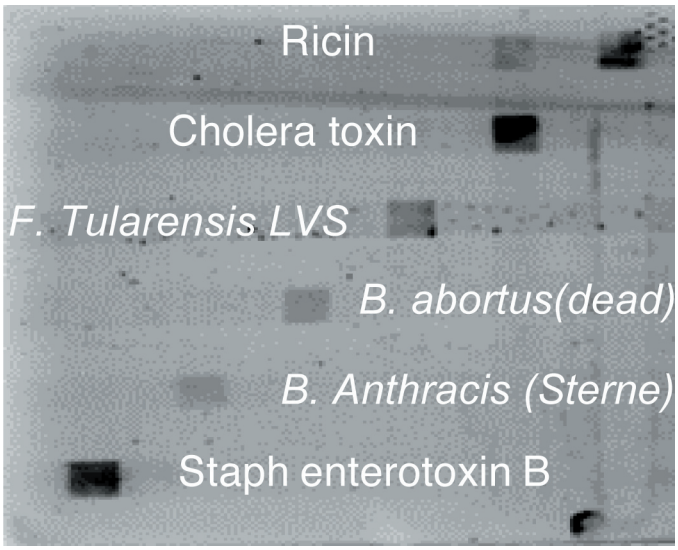
Array Biosensor





DESCRIPTION:

The Naval Research Laboratory (NRL) has developed an array biosensor for the rapid simultaneous analysis of multiple analytes in multiple samples. The biochemical component of the multianalyte biosensor consists of a patterned array of biological recognition elements (e.g., "capture" antibodies) immobilized on the surface of a planar waveguide. A fluorescence assay is performed on the patterned surface, yielding an array of fluorescent spots. Software developed at NRL analyzes spot locations to determine the identity of the analyte detected and quantifies the fluorescent signals from each spot.

ADVANTAGES/FEATURES:

- **Sensitive:** demonstrated detection of < 500 pg/mL toxins and < 1000 cfu/mL bacteria
- **Selective:** immunoassay method is highly specific
- **Flexible:** simultaneous detection of proteins, toxins, bacteria, and viruses has been demonstrated
- **Rapid:** results available in as little as 10 minutes
- **Parallel processing:** simultaneous analysis of multiple samples for multiple analytes
- **Designed for use in the field:** stable reagents and compact, lightweight, automated system
- Licensable under the following US patents: 5,077,210; 6,192,168; Australian patent # 763236; Great Britain PCT patent application # PCT/US00/07496; Germany PCT patent application # PCT/US00/07496

APPLICATIONS:

- Infectious disease diagnostics
- Biological warfare defense
- Food & beverage safety
- Agricultural/veterinary testing
- Environmental monitoring

CONTACT:

Licensing information:
Jane F. Kuhl • Head, Technology Transfer Office • (202) 767-7230 • kuhl@utopia.nrl.navy.mil
Technical information:
Dr. Frances Ligler • Center for Bio/Molecular Science & Engineering • (202) 404-6002 • fligler@cbmse.nrl.navy.mil
Dr. Chris R. Taitt • Center for Bio/Molecular Science & Engineering • (202) 404-4208 • crtaitt@cbmse.nrl.navy.mil